

**ACCESSORY WIRING - AUTOMOTIVE**

- I. GENERAL: It is the intent of this specification to describe the minimum requirements for wiring any accessories that are installed in or on a piece of equipment being purchased by the City of Milwaukee.
- II. SAFETY/HEALTH: The wiring shall comply with applicable Federal Motor Vehicle Safety Standards, S.A.E. Codes, Federal Occupational Safety and Health Act and be in accordance with the Wisconsin Administrative Code.
- III. TECHNICAL REQUIREMENTS: Components and procedure(s) for all add-on electrical accessories installed by the vendor and/or the vendor's sub-contractor(s).
  - A. WIRE: The wire used shall be of adequate gauge to carry the anticipated current loads.
  - B. FUSES: All add-on accessories shall be wired into the equipment's main fuse block, if possible. Where there is no provision for additional circuits in the main fuse block, a molded ATO/ATC blade-type in-line fuse holder shall be used for each additional circuit added. The installed fuses shall be sized to afford full protection of each circuit. Circuit breakers are an acceptable substitute for fuses. All add-on circuits shall be permanently labeled, and a simple wiring diagram provided.
  - C. CONNECTIONS-SPLICES: All connections and splices shall be made using the correct size insulated butt connector, properly assembled and crimped. **Self stripping quick splice type connectors such as Scotchlok, and Quik-Tap are not acceptable.**
  - D. INSULATION: All connections and splices shall be protected with heat shrinkable tubing, properly installed using the correct tooling, such as a heat gun. NOTE: The use of heat seal type butt connectors such as Velvac Crimp 'N Seal, or equal can be used to satisfy requirements C and D of this specification.
  - E. EXPOSED WIRING: All wiring exposed to moisture or wear due to its surroundings shall be installed into the correct size wiring loom, which shall extend the full length of the wiring to within six inches of its destination. **The recommended loom is convoluted split type plastic**, or an equivalent type loom, which will fully enclose and protect the wiring. Spiral wrap-around type loom is not acceptable. The loom shall be anchored firmly at least once every 24 inches using nylon cable ties or cable clamps.
  - F. GROMMETS: All holes drilled or cut for wiring, cables, looms, controls, etc., shall be fitted with the correct size grommet, or type of boot to fully protect all accessory wiring. All unused holes or openings shall be sealed in a City approved manner.
- IV. REFERENCE: If you have any questions about this specification, please contact the purchasing agent listed on the bid.